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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,218	03/22/2004	Stephen Bernard Pollard	1509-486	9130

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

MOREHEAD, JOHN H

ART UNIT	PAPER NUMBER
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2622

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/805,218	Applicant(s) POLLARD, STEPHEN BERNARD	
	Examiner John Morehead	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) .
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Koseki et al US 6947074.

3. Re claim 1, Koseki discloses zoom apparatus (fig. 1) for digital image processing comprising: an optical zoom lens (fig. 1 element 19) arranged to provide an image across a continuous zoom range (col. 5 lines 26-35); an image sensor (fig. 1 element 8) arranged to receive an image from the optical zoom lens and to provide a digital representation of the image (col. 5 lines 55-65); and digital zoom apparatus (fig. 1) arranged to apply (a) one of at least two discrete zoom levels to the digital representation of the image such that the total apparent zoom level is the product of the discrete digital zoom level and the optical zoom level (figs. 19 and 20, col. 16 lines 25-67 and col. 17 lines 1-26), and (b) digital interpolation to the digital representation of the image during a transition period between discrete zoom levels (fig. 21, col. 18 lines 37-42).

Re claim 2, Koseki further discloses zoom apparatus according to claim 1, wherein during the transition period between discrete zoom levels the optical zoom lens is arranged to be adjusted to substantially compensate for the change in discrete digital zoom level (fig. 19 and 20, col. 16 lines 25-67, and col. 17 lines 1-26).

Re claim 3, Koseki further discloses zoom apparatus according to claim 2, wherein the optical zoom lens is arranged to be automatically adjusted to a point in the optical zoom lens zoom range that provides, as a product of zoom level with the changed digital zoom level, a total apparent zoom level substantially equal to the zoom level provided by the digital interpolation (col. 20 lines 10-14, also, see claim 2).

Re claim 4, Koseki further discloses zoom apparatus according to claim 3, wherein the zoom lens is arranged to be automatically adjusted from a first end of the zoom range of the zoom lens towards a second end of the zoom range during the transition period between discrete zoom levels (fig. 19 and 20, col. 16 lines 25-67, and col. 17 lines 1-26).

Re claim 5, Koseki further discloses zoom apparatus according to claim 4, wherein the transition period between discrete zoom levels is arranged to be initiated only at the end points of the optical zoom lens zoom range (fig. 19 and 20, col. 16 lines 25-67, and col. 17 lines 1-26).

Re claim 6, Koseki further discloses zoom apparatus according to claim 5, wherein the digital zoom apparatus is arranged to apply the digital interpolation such that the rate of change of total apparent zoom level is substantially equal to the rate of change of zoom level provided by the optical zoom lens (figs. 21 and 22, col. 18 lines 43-67 and col. 19 lines 1-20).

Re claim 7, Koseki further discloses zoom apparatus according to claim 6, wherein the discrete digital zoom levels are arranged to be provided by applying discrete charge binning schemes (fig. 6a, col. 8 lines 41-59).

Re claim 8, Koseki further discloses zoom apparatus according to claim 1, wherein the zoom lens is arranged to be automatically adjusted from a first end of the zoom range of the zoom lens towards a second end of the zoom range during the transition period between discrete zoom levels (claim limitation has already been discussed and rejected, see claim 4).

Re claim 9, Koseki further discloses zoom apparatus according to claim 1, wherein the transition period between discrete zoom levels is arranged to be initiated only at the end points of the optical zoom lens zoom range (claim limitation has already been discussed and rejected, see claim 5).

Re claim 10, Koseki further discloses zoom apparatus according to claim 1, wherein the digital zoom apparatus is arranged to apply the digital interpolation such that the rate of change of total apparent zoom level is substantially equal to the rate of change of zoom level provided by the optical zoom lens (claim limitation has already been discussed and rejected, see claim 6).

Re claim 11, Koseki further discloses zoom apparatus according to claim 1, wherein the discrete digital zoom levels are arranged to be provided by applying discrete charge binning schemes (claim limitation has already been discussed and rejected, see claim 7).

Re claim 12, Koseki further discloses a method of operating a zoom apparatus, the method comprising: operating on optical zoom lens across a continuous zoom range to provide an optical image; applying one of a plurality of discrete digital zoom levels to a digital representation of the optical image such that the total apparent zoom level is the product of the discrete digital zoom level and the optical zoom level; and applying digital interpolation to the digital representation of the image during a transition period in which the level of discrete digital zoom is changed (claim limitations have already been discussed and rejected, see claim 1).

Re claim 13, Koseki further discloses a method according to claim 12, further including substantially compensating for the change in discrete digital zoom level by

adjusting the optical zoom lens, the adjusting step being during the transition period (claim limitations have already been discussed and rejected, see claim 2).

Re claim 14, Koseki further discloses a method according to claim 13 further including returning the zoom lens to a point in the optical zoom range that provides a product of optical zoom level with the changed discrete digital zoom level a total apparent zoom level substantially equal to the zoom level provided by the digital interpolation (claim limitations have already been discussed and rejected, see claim 3).

Re claim 15, Koseki further discloses a method according to claim 14, further including returning the zoom lens from the end point of the zoom range reached immediately prior to the transition period towards the opposite end point of the zoom range (claim limitations have already been discussed and rejected, see claim 4).

Re claim 16, Koseki further discloses a method according to claim 15, further including initiating the transition period in which the level of discrete digital zoom is changed only at the end points of the zoom range provided by the optical zoom lens (fig. 19, col. 17 lines 11-20).

Re claim 17, Koseki further discloses a method according to claim 16, wherein the digital interpolation is applied such that the rate of change of total apparent zoom

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level is substantially equal to the rate of change of zoom level provided by the optical zoom lens (claim limitations have already been discussed and rejected, see claim 6).

Re claim 18, Koseki further discloses a method according to claim 17, wherein each of the plurality of discrete digital zoom levels is provided by applying a discrete charge binning scheme (claim limitations have already been discussed and rejected, see claim 7).

Re claim 19, Koseki further discloses a method according to claim 12, further including returning the zoom lens from the end point of the zoom range reached immediately prior to the transition period towards the opposite end point of the zoom range (claim limitations have already been discussed and rejected, see claim 4).

Re claim 20, Koseki further discloses a method according to claim 12, further including initiating the transition period in which the level of discrete digital zoom is changed only at the end points of the zoom range provided by the optical zoom lens (claim limitations have already been discussed and rejected, see claim 16).

Re claim 21, Koseki further discloses a method according to claim 12, wherein the digital interpolation is applied such that the rate of change of total apparent zoom level is substantially equal to the rate of change of zoom level provided by the optical zoom lens (claim limitations have already been discussed and rejected, see claim 6).

Re claim 22, Koseki further discloses a method according to claim 12, wherein each of the plurality of discrete digital zoom levels is provided by applying a discrete charge binning scheme (claim limitations have already been discussed and rejected, see claim 7).

Re claim 23, Koseki further discloses a digital camera in combination with the zoom apparatus according to claim 1 (fig. 1).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Morehead whose telephone number is 571-270-1183. The examiner can normally be reached on Monday - Friday (alt) 7:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JM



NGOC-YEN VU
SUPERVISORY PATENT EXAMINER